BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Subsidiary Diploma in Applied Science Pearson BTEC International Level 3 Foundation Diploma in Applied Science Pearson BTEC International Level 3 Diploma in Applied Science Pearson BTEC International Level 3 Diploma in Biomedical Science Pearson BTEC International Level 3 Diploma in Environmental Science Pearson BTEC International Level 3 Extended Diploma in Applied Science Pearson BTEC International Level 3 Extended Diploma in Biomedical Science Pearson BTEC International Level 3 Extended Diploma in Environmental Science
Unit number and title	**Unit 15: Diseases and Infections**
Learning aim(s)	**A:** Investigate different types of diseases and infections that can affect humans
Assignment title	**Infectious and non-infectious diseases**
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	Your local hospital is offering clinical insight work experience placements to students who are planning to pursue a career in pharmacy, physiotherapy or nursing. Places are very limited and the selection process is rigorous. Applicants are required to conduct research into different types of infectious agents, the causes of non-infectious diseases and the relationship between disease progression and the effects of this on human health. From your research, you must produce two separate case studies relating to the disease processes involved in infectious and non-infectious diseases.

Task	Use your research into infectious, genetic, degenerative and dietary diseases to • Build **two** separate case studies which include a detailed analysis of how o an infectious and a o non-infectious disease progress over time. For each of your case studies, you must choose an appropriate, named disease and methodically **analyse** the progressive changes to the structures and functions of body organs and systems resulting from the disease processes. This must be linked to the effects on the patient's normal health and well-being and the ability to lead a normal life. • **Assess** the physiological effects on the patients of each of the two named diseases you have chosen by linking the mechanisms of the disease process to the abnormality that is causing changes in the structure or function of body systems. Your assessment must

	consider the importance of the impact of each disease in terms of damage caused to the body and how this, in turn, affects normal physiological functioning. If the disease(s) you have chosen have asymptomatic/remission periods, these should be included. The five main types of pathogens that lead to illness in humans are: o Bacteria o Viruses o Parasites o Fungus o Protozoa Non-infectious diseases can be generally classified as either: o Genetic o Dietary o Degenerative • Choose **one, named example** of a specific disease **from each of the categories** above and **explain** the factors that lead to the development of each condition. • For each pathogenic disease, you must **explain** the characteristic features and life-cycles and the specific biological mechanisms (pathogenesis) In the case of genetic conditions, include a genetic diagram (Punnett square) with your explanation to illustrate how the parent's genotypes can result in their offspring inheriting that particular disease. Dietary disease could focus on obesity, anorexia, diabetes or nutritional deficiency; explain how ill-health evolves from the named dietary-related condition you choose. For degenerative diseases, explain the cause of a named condition such as Alzheimer's disease, amyotrophic lateral sclerosis or multiple sclerosis and how the disease causes an individual's health to deteriorate over time.
Checklist of evidence required	Two patient case studies analysing and assessing one infectious and one non-infectious disease to include: • How each disease progresses and the effects of each disease on human health. • Explanation of the characteristics of the five main pathogenic organisms linked to a disease caused by each. • The causes of three different categories of non-infectious disease with an explanation of how each disease arises. Correct scientific terminology must be used throughout the case studies.

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria, you must show that you are able to:
A.D1	Analyse how an infectious and a non-infectious disease will progress over time, and the effects this may have on affected individuals.
A.M1	Assess the effect of a named infectious and non-infectious disease on body systems.
A.P1	Explain the characteristics of the five main types of pathogens and a disease

	caused by each.
A.P2	Explain the causes of non-infectious diseases in humans.
Sources of information to support you with this Assignment	https://www.who.int/topics/infectious_diseases/en/ https://microbiologysociety.org/why-microbiology-matters.html https://medlineplus.gov/degenerativenervediseases.html https://www.gov.uk/topic/health-protection/infectious-diseases https://www.verywellhealth.com/what-is-a-pathogen-1958836 https://www.healthline.com/health/non-communicable-diseases-list#most-common https://www.betterhealth.vic.gov.au/health/servicesandsupport/chronic-or-degenerative-conditions
Other assessment materials attached to this Assignment Brief	e.g. work sheets, risk assessments, case study